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EXAMINER

MEYER, DAVID C

ART UNIT PAPER NUMBER

2878

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,511

Applicant(s)

WU ET AL.

Examiner

David C. Meyer

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-7, 12, 13, 17, 18 and 22 is/are allowed.
- 6) ☒ Claim(s) 1, 8-11, 16 and 21 is/are rejected.
- 7) ☒ Claim(s) 2-4, 14, 15, 19, 20 and 23-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 11, line 12 to page 16, line 31 of Amendment A, filed May 5, 2003, with respect to the rejection(s) of claim(s) 1-4, 8-11, 16, 21, and 23 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Faifman (US 6,208,446) and Spirig (US 5,160,850).
2. The objections to claims 5-7, 12, 13, 17, 18, and 22, currently amended, are withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 8-11, 16, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Faifman (US 6,208,446).

Regarding claim 8, Faifman discloses an optical communication apparatus comprising photodetectors **D1-DN**, AC coupled amplifiers **A1,A2**, and DC coupled circuitry that could be called a loss of signal circuit. The photodetectors detect ambient

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light, including data signals transmitted by an LED array. An integrator **INT** integrates a current signal corresponding to the intensity of ambient light and outputs a voltage signal to a threshold level generator **TLG**, which produces a signal corresponding to an instantaneous ambient light intensity. This signal is compared by a comparator **CMP** to a signal from a peak detector **PD** that detects the peak output from a limiter amplifier **A3**. During the transmission of data signals, the signal detected by the peak detector exceeds the signal produced by the threshold level generator, and the comparator outputs a HIGH signal. When data signals are not being transmitted, the signal produced by the threshold level generator exceeds the signal detected by the peak detector, and the comparator outputs a LOW signal. A gate control circuit **GTC** enables a gated amplifier **A5** in response to a HIGH signal and disables the gated amplifier in response to a LOW signal. Hence, when data signals are absent, or "lost," the DC coupled circuitry consisting of **INT**, **TLG**, **PD**, **CMP**, and **GTC** affects a gating function. Faifman teaches that this circuitry improves a signal to noise ratio. Because the claims do not specify what the loss of signal signal is used for, any signal that is produced in response to the loss or absence of an optical signal and that affects something could be called a loss of signal signal. (See Fig. 1 and column 2, line 47 to column 4, line 19.)

Regarding claim 9, amplifiers **A1**, **A2** are transimpedance amplifiers.

Regarding claims 1, 10, 11, 21 integrator **INT** converts a DC current into a voltage signal. Comparator **CMP** compares a voltage signal from threshold level generator **TLG** to a voltage signal supplied by peak detector **PD**.

Regarding claim 16, the apparatus of Faifman performs all of the recited steps.

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5. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Spirig (US 5,160,850). Spirig discloses a device that detects the interruption of a light beam generated by a laser source **10**. The device comprises a photodetector **30**, an AC coupled amplifier stage **22,24**, and a DC level discriminator **26** that is DC coupled to the photodetector. The DC level discriminator compares the DC current from the photodetector to a reference voltage. When an object obstructs the path of the light beam, photocurrent falls and the output of the DC level discriminator falls correspondingly indicating an obstruction in the beam path, or loss of beam continuity. (See Figs. 1 and 2 and column 2, line 18 to column 3, line 51.)

Allowable Subject Matter

6. Claims 2-4, 14, 15, 19, 20, and 23-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2-4, the prior art of record does not disclose or fairly suggest the invention as claimed, specifically wherein in addition to a DC coupled LOS circuit and an AC coupled amplifier a current mirror current to voltage circuit is disclosed.

Regarding claims 14, 19, and 24, the prior art of record does not disclose or fairly teach the invention as claimed, specifically wherein a translator circuit for adjusting a LOS signal follows a DC coupled LOS circuit.

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Regarding claims 15, 20, and 25, the prior art of record does not disclose or fairly teach the invention as claimed, specifically wherein a circuit is provided for generating a reference voltage separate from a data voltage signal.

Regarding claim 23, the prior art of record does not disclose or fairly teach the invention as claimed, specifically wherein the DC coupled LOS circuit includes current mirror that receives a temperature and process compensated signal generated by a process and temperature sensor.

7. Claims 5-7, 12, 13, 17, 18, and 22 are allowed. Allowable subject matter which was indicated in the previous Office Action is not included here.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Meyer whose telephone number is 703-305-7955. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on 703-308-4852. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

DCM
June 23, 2003



DAVID PORTA
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